REMARKS

Claims 1-11 and 13-24 were pending when the present Final Office Action was mailed (December 14, 2005). In this paper, claims 1, 5, 6, 8, 11, 14, 15, and 19-21 have been amended, and claims 7 and 24 have been canceled. Accordingly, claims 1-6, 8-11 and 13-23 are currently pending.

In the December 14, 2005 Final Office Action, all of the pending claims were rejected as being unpatentable over the Background Information of the present application ("Background Information") in view of the Abstract of Japanese Patent No. JP63111177A to Mochizuki et al. ("Mochizuki"). Claims 7 and 24 have been canceled, so the Section 103(a) rejections of claims 7 and 24 are moot. The following remarks address the rejections of claims 1-6, 8-11 and 13-23. For the reasons discussed below, the Section 103(a) rejections of claims 1-6, 8-11 and 13-23 should be withdrawn because there is no motivation or suggestion to combine, and because the combination of the Background Information and Mochizuki does not teach or suggest the claimed combination of features.

Claim 1 is directed to a method of depositing a layer onto a microfeature workpiece including (a) placing a microfeature workpiece in a vapor reaction chamber, (b) injecting a gas into a plasma zone in the vapor reaction chamber, (c) generating plasma from the gas in the plasma zone that causes an electrically conductive material to be deposited on the microfeature workpiece and a window of the vapor reaction chamber at a deposition temperature. Then the microfeature workpiece is removed from the vapor reaction chamber. The method further includes (d) transforming the electrically conductive material on the window into a substantially dielectric material at a maintenance temperature of about 400°C, and repeating the steps of (a)-(d) with the transformed dielectric material remaining on the window. When repeating the deposition step, the deposition temperature is approximately equal to the maintenance temperature.

Mochizuki discloses a method of converting a metal film deposited onto a window of a reaction chamber into a dielectric material (Abstract). Mochizuki discloses applying microwave energy through the window 11 to aid in depositing an aluminum film onto a base plate 22 at a temperature of 200°C and a pressure of 1 mTorr, and, as a consequence, an aluminum film is also deposited onto the window 11 of the reaction chamber 20 (at page 2, bottom left paragraph). When the aluminum film on the window 11 becomes more than 200 Å thick, the window 11 can be cleaned by redirecting the microwave energy to the vicinity of the widow 11 to oxidize or nitride the deposited aluminum film with an oxidizing or nitriding agent (at page 2, bottom right paragraph).

Claim 1 is patentable over the combination of the Background Information and Mochizuki because Mochizuki fails to provide a suggestion or motivation to transform the electrically conductive material on the window at a temperature of about 400°C. Contrarily, Mochizuki teaches away from such an arrangement. As described above, Mochizuki discloses depositing an aluminum film at a temperature of 200°C. If the transformation in Mochizuki is carried out at a temperature of 400°C, the Mochizuki's reaction chamber would have to be first heated to about 400°C and then cooled back down to about 200°C after the transformation is completed. Such cyclical cooling and heating would result in a higher thermal budget and longer maintenance downtime for the reaction chamber. Accordingly, one skilled in the art would not be motivated to modify Mochizuki to transform "the electrically conductive material on the window into a substantially dielectric material at a maintenance temperature of about 400°C," as recited in claim 1. Furthermore, the Background Information cannot be relied upon for a suggestion to combine because "[t]he teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure" (emphasis added). *M.P.E.P. § 2143.*

Moreover, even if the Background Information and Mochizuki were combined, the combined teachings of the Background Information and Mochizuki fail to teach each and every feature of claim 1. For example, neither reference teaches or suggests that "the deposition temperature is approximately equal to the maintenance temperature" when the deposition process is repeated. Instead, Mochizuki discloses transforming the aluminum film by redirecting the microwave energy toward the window and is silent on the transformation temperature. As a result, Mochizuki fails to disclose transforming the electrically conductive material at a temperature that is approximately equal to the deposition temperature.

Accordingly, amended claim 1 is patentable over the combined teachings of the Background Information and Mochizuki because the cited references do not support a *prima facie* case of obviousness as applied to claim 1. Claims 2-6, and 8-10 are patentable over the combined teachings of the Background Information and Mochizuki as depending from allowable claim 1 and because these claims contain additional features.

Claim 11 has been amended to contain subject matter generally analogous to claim 1. In addition, amended claim 11 indicates that the deposited metal film is a Titanium film, which is neither taught nor suggested by the cited references. Accordingly, claim 11 is patentable over the combined teachings of the Background Information and Mochizuki because of the reasons discussed above with respect to claim 1 and also because the additional features of claim 11. Claims 13-18 are patentable over the combined teachings of the Background Information and Mochizuki as depending from allowable claim 11 and because these claims contain additional features.

Claim 19 has been amended to contain subject matter generally analogous to claim 1. In addition, amended claim 19 indicates that the method applies to an Atomic Layer Deposition process, which is neither taught nor suggested by the cited references. Accordingly, claim 19 is patentable over the combined teachings of the Background Information and Mochizuki because of the reasons discussed above with respect to claim 1 and also because of the additional features of claim 19. Claims 20-23 are patentable over the combined teachings of the Background Information and Mochizuki as depending from allowable claim 19 and because these claims contain additional features.

In view of foregoing, the pending claims are patentable over the applied references. The applicant respectfully requests reconsideration of the application and a Notice of Allowance. If the Examiner has any questions or believes a telephone conference would expedite prosecution of this application, the Examiner is encouraged to call the undersigned representative at (206) 359-6038.

Respectfully submitted,

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